

Translation of the "CERTIFICATE OF PATENT"

CERTIFICATE OF PATENT

PATENT NUMBER: 3778890

TITLE OF THE INVENTION

ELECTROSTATIC IMAGE DEVELOPER AND IMAGE-FORMING
PROCESS

PATENTEE

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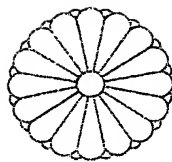
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NAKAJIMA, Makoto



特 許 証
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静電荷像現像剤及び画像形成方法

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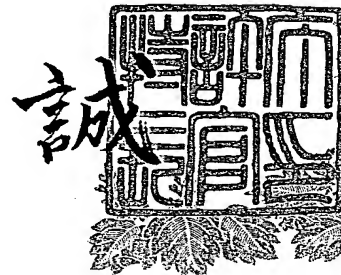
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この発明は、特許するものと確定し、特許原簿に登録されたことを証する。
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特 許 庁 長 官 (COMMISSIONER, JAPAN PATENT OFFICE)

中 嶋



Translation of the claims of Japanese Patent No.3778890

Claims

1. An image-forming process involving a step of forming an electrostatic latent image on an electrostatic latent image carrier, a step of developing the thus-formed latent image with an electrostatic image developer, a step of transferring the thus-developed image to a transfer member, a step of fixing the transferred image, and a step of scraping the developer remaining on the electrostatic latent image carrier after the transferring step with a cleaning blade, wherein the electrostatic latent image carrier is constituted by an inorganic material and the developer contains at least toner particles and silicon carbide fine powder of 0.2 to 1.5 μm in average primary particle size, 10 to 50 m^2/g in specific surface area and 10 to 60% in amount of agglomerated particles, said silicon carbide fine powder being contained in an amount of 0.1 to 5.0% by weight based on the toner particles.
2. The image-forming process as described in claim 1, wherein said electrostatic latent image carrier comprises amorphous silicon.
3. The image-forming process as described in claim 2, wherein said amorphous silicon is amorphous silicon containing 50% or more Si-O based on the chemical state of Si derived from the results of peak separation of Si2p spectrum for the surface

of the electrostatic latent image carrier in the X-ray photoelectron spectroanalysis.

4. The image-forming process as described in claim 1, wherein said electrostatic latent image carrier is an arsenic-selenium series photoreceptor of 60 to 150 μm in film thickness of vapor deposition film.
5. The image-forming process as described in claim 1, wherein a concentration of Fe element deposited on the surface of said silicon carbide fine powder is from 0.14% to 0.32% by weight and a concentration of Al element is from 0.135% to 0.437% by weight or less.
6. The image-forming process as described in claim 1, wherein said electrostatic image developer is a one-component magnetic developer.
7. The image-forming process as described in claim 1, wherein said electrostatic image developer is a two-component developer containing a non-magnetic toner.
8. The image-forming process as described in one of claims 1 to 7, wherein said electrostatic image developer further contains other inorganic fine particles than said silicon carbide fine powder.

9. An electrostatic image developer containing at least toner particles and silicon carbide fine powder, wherein the silicon carbide fine powder has an average primary particle size of 0.2 to 1.5 μm and a specific surface area of 10 to 50 m^2/g and contains 10 to 60% of agglomerated particles, said silicon carbide fine powder being contained in an amount of 0.1 to 5.0% by weight based on the toner particles.
10. The electrostatic image developer as described in claim 9, wherein said silicon carbide fine powder is a powder produced by pulverizing silicon carbide powder, classifying by a wet-classifying method to obtain silicon carbide fine particles having an average primary particle size of 0.2 to 1.5 μm , adding an agglomerating agent to the classified aqueous solution to agglomerate and sediment silicon carbide fine particles in the aqueous solution, drying the resultant slurry, and crushing the dried product.
11. The electrostatic image developer as described in claim 10, wherein a concentration of Fe element deposited on the surface of the silicon carbide fine powder is from 0.14% to 0.32 % by weight and a concentration of Al element is from 0.135% to 0.437% by weight or less.